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10/726,476	12/03/2003	Gabriele Nelles	450117-03372.1	5895

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EXAMINER	
DIAMOND, ALAN D	
ART UNIT	**PAPER NUMBER**
1753	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/726,476	Applicant(s) NELLES ET AL.
	Examiner Alan Diamond	Art Unit 1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,4,7,10-17,31 and 63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,4,7,10-17,31 and 63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/866,199.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. 09282005

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Comments

1. The Examiner acknowledges that that a statement regarding priority has been added to the instant specification.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 4, 7, 10-17, 31, and 63 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakamura, (U.S. Patent 6,291,763 B1) in light of Priddy (U.S. Patent 4,288,379), Klein (U.S. Patent 4,710,520), and Hawley's Condensed Chemical Dictionary, 12th Edition, (1993), pages 409, 853, and 1180 (herein referred to as "Hawley").

Nakamura prepares a photo cell (i.e., instant solar cell) having the claimed components, wherein a molten salt or mixture of molten salts are used in a charge

transporting layer (see abstract; col. 15, line 61 through col. 25, line 17; and Examples 1-3). The molten salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 in the table at cols. 18-25 are polymeric. This is particularly so in view of the fact that said molten salts contain the dimer $CH_2CH_2OCH_2CH_2O$, or as in salt Y26, further contains multiple CH_2CH_2O groups in the ring. A dimer is a polymer, and this is supported by the teaching of Priddy (col. 3, lines 57-62) and Klein (col. 4, line 64) which teach that diethylene glycol is polymeric. Likewise, at page 409, Hawley teaches that a dimer is an oligomer whose molecule is composed of two molecules of the same chemical composition, and at page 1180 teaches that a trimer is an oligomer whose molecule is comprised of three molecules of the same chemical composition. Hawley teaches at page 853 that an oligomer is a polymer molecule consisting of only a few monomer units (dimer, trimer, tetramer). It is the Examiner's position that said polymeric molten salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 exhibit a melting temperature lower than the operation temperature of the photo cell, such as about 140°C or less, since they are molten when used in the photo cell. Likewise, it is the Examiner's position that said molten salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 have a glass transition temperature, such as one of about 60°C or less, and are hole transporters. Solvent and iodine can be added to the instant molten salt, and said solvent or iodine reads on the instant dopant (see col. 25, lines 13-21). The semiconductor of the photocell can comprise nanoparticles of TiO_2 and be sensitized with a dye, such as a ruthenium complex (see col. 5, lines 1-14; col. 7, line 42 through col. 8, line 41; and Example 1 at

col. 33). Since Nakamura teaches the limitations of the instant claims, the reference is deemed to be anticipatory.

In addition, the presently claimed limitation that the polymeric electrically conducting agent has a melting temperature lower than the operation temperature of photoelectric conversion device and has a glass transition temperature would obviously have been present once Nakamura's molten salt Y19, Y20, Y26, Y27, Y31, Y33, and Y35, or mixture thereof, is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made above under 35 USC 102.

5. Claims 3, 4, 7, 10-17, 31, and 63 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious Ono (U.S. Patent 6,495,067).

Ono teaches a photoelectrochemical cell, i.e., photoelectric conversion device, comprising semiconductor, e.g., a film of porous nanoparticulate TiO_2 sensitized with ruthenium complex dye, and an electrolyte that comprises the liquid crystal compound (IA) and mixtures thereof (see col. 4, line 55 through col. 5, line 59; col. 5, line 51 through col. 6, line 26; col. 8, lines 24-56; col. 9, lines 12-23; col. 19, line 51 through col. 20, line 57; col. 21, lines 23-54; and Example 2 at cols. 43-44). Ono's (IA) compounds having the formulas F-2 through F-12 at cols. 27-30 are polymeric. Other (IA) compounds that are polymeric are F-14, F-17, and F-28 (see cols. 29-32). The compounds (IA) have a particularly preferred melting point temperature of 60°C or lower so that they may exhibit the liquid crystal properties in the working temperature range of

the cell (see col. 21, lines 50-54). It is the Examiner's position that said (IA) compounds having the formulas F-2 through F-12, F-14, F-17, and F-28 inherently have a glass transition temperature T_g, their respective T_g is about 60°C or less as per instant claim 7, and are hole transporters. The compounds (IA) can be doped with alkali metal salt, alkaline earth metal salt, or iodine salt (see col. 35, line 63 through col. 37, line 6). Since Ono teaches the limitations of the instant claims, the reference is deemed to be anticipatory.

In addition, the presently claimed limitation that the polymeric electrically conducting agent has a glass transition temperature would obviously have been present once Ono molten liquid crystalline compound of formula F-2 through F-12, F-14, F-17, or F-28 is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made above under 35 USC 102.

Claim Rejections - 35 USC § 103

6. Claims 3, 4, 7, 10-17, 31, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (U.S. Patent 6,291,763 B1) in view of Ohno et al (U.S. Patent 6,025,457) and Fahrenbruch et al (Fundamentals of Solar Cells, Photovoltaic Solar Energy Conversion, Academic Press: NY, (1983), page 234).

Nakamura prepares a photo cell (i.e., instant solar cell) having the claimed components, wherein a molten salt or mixture of molten salts are used in a charge transporting layer as an ion transporting material (see abstract; col. 15, line 61 through col. 25, line 17; and Examples 1-3). Examples of molten salts are shown as formulas Y-

a, Y-b, and Y-c at col. 16. Said formulas show iodide salts, but Nakamura is not limited to iodide as the anion of the salt, and teaches that other anions can be used (see col. 18, lines 8-16). Solvent and iodine can be added to the instant molten salt, and said solvent or iodine reads on the instant dopant (see col. 25, lines 13-21). The semiconductor of the photocell can comprise nanoparticles of TiO_2 and be sensitized with a dye, such as a ruthenium complex (see col. 5, lines 1-14; col. 7, line 42 through col. 8, line 41; and Example 1 at col. 33). Nakamura teaches the limitations of the limitations of the instant claims other than the difference which is discussed below.

Nakamura does not specifically require that its molten salt be polymeric and have a glass transition temperature. Ohno et al teaches molten salts that are polymeric, have high ionic conductivity, excellent stability to temperature fluctuations, and high flexibility (see col. 1, line 44 through col. 2, line 42). The polymeric molten salts have very low glass transition temperature (T_g) (see col. 7, line 43; and col. 8, line 21). Indeed, the polymer prepared in Ohno et al's Example 2 at cols. 7-8 has a T_g of $-70.4^{\circ}C$ and exceeding high mobility at temperature not lower than the melting point (see col. 8, lines 17-25). Note that at $50^{\circ}C$, the polymer is already a flowable, rubber-like compound (see col. 7, lines 63-67). Fahrenbruch et al is relied upon for teaching what is very well-known in the art, i.e., that photovoltaic cells are used at temperature as high as $140^{\circ}C$, such as about $100^{\circ}C$ (see section 6.4 on page 234). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used Ohno et al's polymeric molten salt, e.g., the salt prepared in Ohno et al's Example 2 for the molten salt in Nakamura's photo cell because Ohno et al's polymer molten salt provides the

advantage of high ionic conductivity, excellent stability to temperature fluctuations, and high flexibility. As noted above, Ohno et al's polymer salt prepared in Example 2 has exceeding high mobility at temperature not lower than the melting point, and already is a flowable, rubber-like compound at 50°C. This temperature is lower than the operation temperature of a photovoltaic cell, which can be as high as 140°C, such as about 100°C. It should further be noted that the cation in Ohno et al's molten salt prepared in Example 2 is the same as the cation in Nakamura's molten salt of formula Y7 at col. 19.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 3, 4, 7, 10-14, and 31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,700,058. Although the conflicting claims are not identical, they are not patentably distinct from each other because it is the Examiner's position that the compounds in claims 1, 3, and 16 of said patent are polymers, have a melting temperature lower than the operation temperature of the photoelectric conversion

device they are used in (claims 2 and 8 of said patent), and have a glass transition temperature. When the mixture is used as in claim 3 of said patent, any one of the two compounds is the dopant for the other compound. Note in claims 3 and 19 of said patent that the semiconductor in the photoelectric conversion device is sensitized with a dye. A photoelectric conversion device clearly renders obvious a solar cell, as in instant claim 31.

9. Claims 15-17 and 63 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,700,058 in view of Nakamura (U.S. Patent 6,291,763).

It is the Examiner's position that the compounds in claims 1, 3, and 16 of said patent are polymers, have a melting temperature lower than the operation temperature of the photoelectric conversion device they are used in (claims 2 and 8 of said patent), and have a glass transition temperature. Note in claims 3 and 19 of said patent that the semiconductor in the photoelectric conversion device is sensitized with a dye. The claims of said patent teach the limitations of the instant claims, the difference being that the claims of said patent do not specifically teach that the dye is a ruthenium complex or that the semiconductor is porous and made of nanoparticles, such as TiO_2 nanoparticles. However, each of these features is well known and conventional in the art. Nakamura teaches that the semiconductor for its photocell can comprise nanoparticles of TiO_2 (i.e., it is porous) and be sensitized with a dye, such as a ruthenium complex (see col. 5, lines 1-14; col. 7, line 42 through col. 8, line 41; and Example 1 at col. 33). It would have been obvious to one of ordinary skill in the art at

the time the invention was made to have used a ruthenium complex for the dye in the claims of said patent, and to have used a semiconductor that is porous and comprises nanoparticles of TiO_2 because such features are well known and conventional in the art, as shown by Nakamura.

Response to Arguments

10. Applicant's arguments filed July 15, 2005 have been fully considered but they are not persuasive.

Applicant argues that Nakamura never describes or defines his molten salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 to be polymers. Applicant cites the definition of "polymer" from the Encyclopedia of Columbia University Press and argues that if Nakamura had intended the molten salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 to be polymers, he would have had to act as his own lexicographer and specifically define that a dimmer of CH_2CH_2O was intended to be a polymer as this would have been outside the scope of the generally accepted plain meaning of the term "polymer". However, this argument is not deemed to be persuasive because Nakamura's salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 are polymers. This is particularly so in view of the fact that said molten salts contain the dimer $CH_2CH_2OCH_2CH_2O$, or as in salt Y26 further contains multiple CH_2CH_2O groups in the ring. A dimer is a polymer, and this is supported by the teaching of Priddy (col. 3, lines 57-62) and Klein (col. 4, line 64) which teach that diethylene glycol is polymeric. Likewise, at page 409, Hawley teaches that a dimer is an oligomer whose molecule is composed of two molecules of the same chemical composition, and at page 1180 teaches that a trimer is an oligomer

whose molecule is comprised of three molecules of the same chemical composition. Hawley teaches at page 853 that an oligomer is a polymer molecule consisting of only a few monomer units (dimer, trimer, tetramer). Indeed, in said definition of "polymer" referred to by applicant in the Encyclopedia of Columbia University Press (see the middle of page 7 of applicant's arguments filed 07/15/05), it is stated that "two monomers combined form a dimer and three monomers a trimer". As noted above, Hawley teaches that a dimer is an oligomer whose molecule is composed of two molecules of the same chemical composition, a trimer is an oligomer whose molecule is comprised of three molecules of the same chemical composition, and an oligomer is a polymer molecule consisting of only a few monomer units (dimer, trimer, tetramer).

Applicant argues that Priddy and Klein are non-analogous art. However, this argument is not deemed to be persuasive because one skilled in any art that uses polymers knows what is meant by the term "polymer". Not only do Priddy and Klein support the Examiner's position, but so does Hawley, which is a chemical dictionary.

Applicant argues that "[e]ven if the Examiner had been correct in his assumption that the molten salts of Nakamura were polymers, this alone is not enough to establish that they would have the required element of the applicant's claim 4 (melting temperature of 140°C or less) and claim 7 (glass transition temperature of 60°C or less)." Applicant argues that "[t]he only evidence provided by the Examiner is the assertion that the molten salts of Nakamura are polymers, which has been disproven by the arguments presented above even if they had been polymers, the Examiner's rationale for inherency is based on technically incorrect premises." However, this is not

deemed to be persuasive because, as the Examiner has established above, Nakamura's salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 are polymers. It is the Examiner's position that these polymeric salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 inherently have a glass transition temperature as per instant claim 3, such as one about 60°C or less, as per claim 7, and also have a melting temperature of 140°C as per claim 4. Applicant has not provided any evidence to show that said salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 do not have a glass transition temperature or the instant melting temperature.

Applicant argues that the Examiner has misunderstood the term "molten salt" and that one has to distinguish between molten salts on one side and ionic liquids on the other side. Applicant argues that conventional molten salts such as NaCl and LiCl have high melting points (i.e., 801°C for NaCl and 614°C for LiCl), and that ionic liquids remain at or below room temperature. Applicant argues that the fact that the compounds given in columns 17-24 are referred to as molten salts does not necessarily imply that they have a melting temperature < 140°C. However, applicant's arguments are not deemed to be persuasive because the molten salts discussed by Nakamura are well know to be liquid at or near room temperature. For example, at col. 16, lines 8-9, Nakamura refers to JP 8-259543-A for examples of its molten salt electrolyte. The Examiner hereby makes of record Bonhote et al (U.S. Patent 5,683,832) which is of the same patent family as JP 8-259543-A. Bonhote et al teaches that "[s]alts that are liquid at ambient temperature having a substituted imidazolium cation and trifluoromethane sulfonate anion are already known" (see col. 1, lines 16-21). Bonhote et al's molten

salts are also liquid at ambient temperature (see col. 1, lines 37-67). Of course NaCl and LiCl will become molten at relatively high temperature. However, Nakamura does not use NaCl or LiCl as it molten salt electrolyte. Like Bonhote et al's molten salt electrolytes and the other well known molten salts that are liquid at or near room temperature, it is the Examiner's position that said salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 are also liquid at or near room temperature. Applicant has not provided any evidence that they would not be liquid at or near room temperature.

Applicant argues that "[m]oreover, the Examiner's presumption that the melting temperature of Nakamura's molten salts could somehow be equivalent to glass transition temperature is incorrect." However, this argument is not well take because the Examiner has never made any statement that the melting temperature of Nakamura's molten salts could be equivalent to glass transition temperature. As seen at page 3, lines 8-13, of the Office action mailed 02/15/2005, it is stated by the Examiner that "[i]t is the Examiner's position that said polymeric molten salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 exhibit a melting temperature lower than the operation temperature of the photo cell, such as about 140°C or less, since they are molten when used in the photo cell. Likewise, it is the Examiner's position that said molten salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 have a glass transition temperature, such as one of about 60°C or less".

Applicant argues that not every polymer has a glass transition temperature. However, this argument is not deemed to be persuasive because Nakamura's polymeric molten salts Y19, Y20, Y26, Y27, Y31, Y33, Y35, and Y36 have respective inherent

physical properties. It may be true that not all polymers have a glass transition temperature, but many do have one. It is the Examiner's position that said polymeric molten salts inherently have a respective glass transition temperature, in the absence of a showing to the contrary.

Applicant argues that it is not appropriate to call the solvent and iodine recited at col. 25, lines 13-21 of Nakamura as dopants since the term dopant "is endowed with a specific meaning to one skilled in the art." Applicant argues that "[t]his can for example be seen on page 45, middle paragraph of the present application which explicitly states that 'dopants' can increase short-circuit currents up to an order of magnitude." However, this argument is not deemed to be persuasive because while it is true that some dopants such as the Li salts discussed at page 45, middle paragraph, of the instant specification can increase short-circuit currents, the term "dopant" is in no way limited to such Li salts or their associated effect. Nakamura's solvent that is added provides excellent ion conductivity, improvement in ion mobility, and an increase in effective carrier concentration (see col. 25, lines 44-49). The iodine provides a redox pair with the molten salt when the molten salt is, for example, an iodide salt. A polymer can be added as a dopant to Nakamura's liquid electrolyte so as to form a gel (see col. 26, lines 16-24). The solvent and iodine and dopants that can be added to the molten salt.

With respect to claim 14, Applicant argues that the hole transporting agent in Nakamura is an I^-/I_2 redox couple which is the actual charge transporting system in the electrolyte system. Applicant argues that the molten salts themselves do not take part

in the charge transport and that it is the redox system within them, as exemplified by iodine/iodide. Applicant argues that "Nakamura explicitly states that the molten salt electrolyte has the purpose of securing both photoelectric conversion efficiency and durability (column 16, lines 6-7)", and that this "is not the same as being a hole transporting agent." However, this argument is not deemed to be persuasive because the term "hole transporting agent" in claim 14 encompasses the situation in Nakamura where the molten salt is an iodide and is present with iodine so as to form a redox couple. The redox couple provides for hole transport. Accordingly, the molten iodide salt of the redox couple is a hole transporting agent.

With respect to the obviousness-type double patenting rejections, applicant's main argument is that the Examiner has expressed an opinion of the validity of the patentability of the patent (U.S. 6,700,058) by rejecting the instant claims over the claims of said patent. However, this argument is not deemed to be persuasive. Claim 1 in said patent presents a compound that is a species of the instant generic polymeric electrically conducting agent, and, as seen in the claims of said patent, said compound is used with a semiconductor in a photoelectric conversion device. In the instant application and prosecution, the Examiner has not expressed any opinion on the validity of the patentability of said patent or said species.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan Diamond
Primary Examiner
Art Unit 1753

Alan Diamond
September 28, 2005